

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 07 MAR 2006

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Applicant's or agent's file reference 25791.31.02	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/US04/00631	International filing date (day/month/year) 12 January 2004 (12.01.2004)	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC IPC(8): E21B 17/02, 23/00 and US Cl.: 166/380, 382, 242.6; 228/194, 135; 285/21.2, 21.3, 288.3, 288.11, 289.5		
Applicant SHELL OIL COMPANY		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>16</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input checked="" type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 04 August 2005 (04.08.2005)	Date of completion of this report 07 February 2006 (07.02.2006)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer <i>D. Wildermuth for</i> Hoang Dang Telephone No. 571-272-3600	

Form PCT/IPEA/409 (cover sheet)(April 2005)

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ the international application as originally filed/furnished
- ☒ the description:
pages 1-27 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☒ the claims:
pages NONE as originally filed/furnished
pages* NONE as amended (together with any statement) under Article 19
pages* NONE received by this Authority on _____
pages* 28-43 received by this Authority on 31 May 2005 (31.05.2005)
- ☒ the drawings:
pages 1-13 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation to restrict or pay additional fees the applicant has, within the applicable time limit:
- ☐ restricted the claims.
 - ☒ paid additional fees.
 - ☐ paid additional fees under protest, and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ neither restricted the claims nor paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
- ☐ complied with.
 - ☒ not complied with for the following reasons:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-3, 5-17, 19-27, 29-89, 102-141, 149-162 and 170-192, drawn to a method, a tubular liner or an apparatus.

Group II, claim(s) 90-93, drawn to a tubular assembly.

Group III, claim(s) 94-101, drawn to a cold-weldable insert.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical feature of the claims of Group I is the radially expanding and plastically deforming the coupled first and second tubes. The special technical feature of the claims of Group II is the combination of a mechanical connection and a metallurgical connection between first and second tubes. The special technical feature of the claims of Group III is the tapered tubular member fabricated from one or more materials capable of forming a metallurgical bond with at least one adjacent tubular member. Unity between Groups I-III is lacking because each Group relies on a different special technical feature as explained above.

4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts
 - ☐ the parts relating to claims Nos. _____

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/00631**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Inventive Step (IS)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Industrial Applicability (IA)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 52-54, 58-61, 102-117, 141, 149-182 and 188-192 lack novelty under PCT Article 33(2) as being anticipated by DANIEL (US 6,419,147) (see figures 1-6, column 3, lines 8-22; column 4, lines 11-25 and 50-67; column 5, lines 1-17; column 5, line 66 through column 6, line 11; and column 6, line 63 through column 7, line 3).

Claims 1-3, 5-17, 19-27, 29-51, 55-57, 62-101, 118-140 and 183-187 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the invention as claimed and wherein the insert comprises an inner core of a first material and an outer layer of a second material having a lower melting point than the first material or wherein the insert (or the metallurgical connection) is a cold welded insert (or a cold welded connection) or wherein the metallurgical connection is formed during the radial expansion and plastic deformation of the first and second tubes.

Claims 1-3, 5-17, 19-27, 29-141, 149-162 and 170-192 meet the criteria set out in PCT Article 33(4), and thus having industrial applicability because the subject matter claimed can be made or used in industry.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V.1. Reasoned Statements:

The opinion as to Novelty was positive (Yes) with respect to claims 1-3, 5-17, 19-27, 29-51, 55-57, 62-101, 118-140 and 183-187

The opinion as to Novelty was negative (No) with respect to claims 52-54, 58-61, 102-117, 141, 149-162, 170-182 and 188-192

The opinion as to Inventive Step was positive (Yes) with respect to claims 1-3, 5-17, 19-27, 29-51, 55-57, 62-101, 118-140 and 183-187

The opinion as to Inventive Step was negative (NO) with respect to claims 52-54, 58-61, 102-117, 141, 149-162, 170-182 and 188-192

The opinion as to Industrial Applicability was positive (YES) with respect to claims 1-3, 5-17, 19-27, 29-141, 149-162 and 170-192

The opinion as to Industrial Applicability was negative (NO) with respect to claims NONE